

### What is claimed is:

1. An optical disc assembly, comprising:
  - optically readable structures which are trackable by an optical disc reader and which have encoded speed information enabling the optical disc reader to rotate the optical disc assembly at a speed that is determinable from said speed information; and
  - an analyte section capable of receiving an analyte which can be detected by the optical disc reader.
2. The optical disc assembly according to claim 1, further comprising:
  - a first layer with said optically readable structures impressed therein; and
  - a second layer, the analyte section including a first chamber which is positioned between the first layer and the second layer and which is capable of receiving the analyte that can be detected by the optical disc reader.
3. The optical disc assembly according to claim 2, wherein at least one of the first layer and the second layer includes a first channel connecting to the first chamber.
4. The optical disc assembly according to claim 3, wherein the channel includes a valve which can be regulated by optically readable data encoded in the optical disc assembly.
5. The optical disc assembly according to claim 3, wherein the analyte section includes a second chamber which is positioned between the first layer and the second layer and which is capable of receiving another analyte that can be detected by the optical disc reader, and at least one of the first layer and the second layer includes a second channel connecting to the second chamber.
6. The optical disc assembly according to claim 5, further comprising optically readable data encoding design information of the optical disc assembly.
7. The optical disc assembly according to claim 3, wherein the first layer includes a surface with said optically readable structures impressed therein, and said optically readable structures are coated with a first reflective layer which is located between the first layer and the second layer.

8. The optical disc assembly according to claim 7, wherein the second layer includes a refractive material and is capable of focusing a reading beam of the optical disc reader on the first reflective layer.

5

9. The optical disc assembly according to claim 8, wherein said surface of the first layer includes an area which lacks optically readable structures that have encoded tracking information.

10

10. The optical disc assembly according to claim 9, wherein said area lacks a reflective coating.

11. The optical disc assembly according to claim 9, wherein the first chamber includes a surface which is located within 15 micrometers from said area.

15

12. The optical disc assembly according to claim 7, wherein the first reflective layer is semi-transmissive, the second layer is coated with a second reflective layer which is located between the first layer and the second layer, and the first layer includes a refractive material and is capable of focusing a reading beam of the optical disc reader on the second reflective layer.

20

13. The optical disc assembly according to claim 12, wherein said surface of the first layer includes an area which lacks optically readable structures that have encoded tracking information.

25

14. The optical disc assembly according to claim 13, wherein said area lacks a reflective coating.

30

15. The optical disc assembly according to claim 13, wherein the first chamber includes a surface which is located within 15 micrometers from said area.

16. The optical disc assembly according to claim 15, wherein said surface of the first chamber includes said area.

17. The optical disc assembly according to claim 15, wherein the second layer lacks optically readable structures that have encoded tracking information.

5        18. The optical disc assembly according to claim 1, comprising a layer which includes a surface with said optically readable structures impressed therein, the analyte section including a surface which is located within 15 micrometers from said surface of said layer.

10        19. The optical disc assembly according to claim 18, wherein the optical disc reader is a CD reader or a DVD reader.

15        20. The optical disc assembly according to claim 18, wherein at least part of the analyte section is located within a layer in the optical disc assembly.

20        21. The optical disc assembly according to claim 20, wherein said optical readable structures have encoded information for conducting an assay on the analyte.

25        22. The optical disc assembly according to claim 21, wherein said optically readable structures are in a CD format or a DVD format.

30        23. The optical disc assembly according to claim 1, wherein the analyte section contains the analyte.

25        24. The optical disc assembly according to claim 23, wherein the analyte is a biological analyte, a biochemical analyte, or a chemical analyte.

30        25. The optical disc assembly according to claim 24, comprising a first layer which includes a surface with said optically readable structures impressed therein, at least part of the analyte being located within 15 micrometers from said surface.

26. The optical disc assembly according to claim 25, wherein the optical disc reader is a CD reader or a DVD reader.

27. The optical disc assembly according to claim 25, comprising a second layer, said optically readable structures being coated with a first reflective layer which is located between the first layer and the second layer.

5

28. The optical disc assembly according to claim 27, wherein the second layer includes a refractive material and is capable of focusing a reading beam of the optical disc reader on the first reflective layer or the analyte.

10

29. The optical disc assembly according to claim 27, wherein the first reflective layer is semi-transmissive, the second layer is coated with a second reflective layer which is located between the first layer and the second layer, and the first layer includes a refractive material and is capable of focusing a reading beam of the optical disc reader on the analyte or the second reflective layer.

15

30. An optical disc assembly, comprising:  
a hologram which contains optically readable structures that have encoded tracking information, and speed information enabling an optical disc reader to rotate the optical disc assembly at a speed that is determinable from said speed information; and  
an analyte section capable of receiving an analyte which can be detected by the optical disc reader.

20

31. The optical disc assembly according to claim 30, further comprising a layer, at least part of the analyte section being located between said layer and the hologram.

25

32. The optical disc assembly according to claim 31, wherein said layer includes a refractive material and is capable of focusing a reading beam of the optical disc reader on an image plane of the hologram.

30

33. The optical disc assembly according to claim 32, wherein the optical disc reader is a CD reader or a DVD reader.

34. The optical disc assembly according to claim 32, wherein the hologram is reflective.

5 35. The optical disc assembly according to claim 32, wherein at least part of the image plane of the hologram is located within the analyte section.

36. The optical disc assembly according to claim 35, wherein the hologram is replaceable.

10 37. The optical disc assembly according to claim 30, wherein the analyte section contains the analyte.

15 38. The optical disc assembly according to claim 37, wherein the analyte is positioned within 15 micrometers from an image plane of the hologram.

15 39. The optical disc assembly according to claim 38, comprising a layer which includes a refractive material and which is capable of focusing a reading beam of the optical disc reader on the analyte or said image plane of the hologram.

20 40. The optical disc assembly according to claim 39, wherein the optical disc reader is a CD reader or a DVD reader.

25 41. The optical disc assembly according to claim 39, wherein the analyte is located between the hologram and said layer.

25 42. A method for detecting an analyte held in the analyte section of the optical disc assembly of claim 1, comprising:

providing the optical disc assembly to the optical disc reader;

reading the optically disc assembly; and

30 obtaining a signal which is indicative of the presence of the analyte.

43. The method according to claim 42, wherein the optical disc reader is a CD or DVD reader.

44. A method for detecting an analyte held in the analyte section of the optical disc assembly of claim 30, comprising:

5 providing the optical disc assembly to the optical disc reader;  
reading the optically disc assembly; and  
obtaining a signal which is indicative of the presence of the analyte.

45. The method according to claim 44, wherein the optical disc reader is a CD or  
DVD reader.

10

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100